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CLMPTO 032502 AEC

CLAIMS:

1. (Amended) A method for transmitting a route request for a route between a source node and a destination node in a communication network and for transmitting a reply identifying the route, the communication network including a plurality of nodes, comprising at least one node, comprising at least one processor, and method comprising:

transmitting the route request from the receiving node in the communication network to the at least one router node via at least one processor via a circuit transmission;

and
generating a route reply and sending the route reply to the source node, the route reply identifying the route in the communication network between the source node and the destination node.

2. The method of claim 1, wherein the route request is received by the receiving node from another node in the at least one processor.

3. The method of claim 1, wherein the route request is generated within the receiving node.

4. The method of claim 1, further comprising the steps of:

(a) determining, before said step of transmitting, whether the route request has been previously received at the receiving node; and

(b) ignoring the route request if it is determined in said step (a) that the route request has been previously received at the receiving node.

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6. The method of claim 4, wherein the route request is received by the receiving node from another node in the network.

7. The method of claim 4, wherein the route request is generated within the receiving node.

8. The method of claim 1, further comprising the steps of:

(a) determining, before said step of transmitting, whether the receiving node is a master node; and

(b) determining whether the destination node is in the piconet of the receiving node if it is determined in said step (a) that the receiving node is a master node,

wherein said step of generating a route reply and sending the route reply to the source node is performed if it is determined in said step (b) that the destination node is in the piconet of the node, and said step of transmitting is performed if it is determined in said step (b) that the destination node is not in the piconet of the receiving node.

9. The method of claim 7, further comprising the step of adding the receiving node to a route list of a master completing the route request before said step of generating a route reply if it is determined in said step (b) that the destination node is in the piconet of the receiving node.

10. The method of claim 1, further comprising the steps of:

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(a) determining, before said step of transmitting, whether the receiving node is a master node; and

(b) determining whether the receiving node is participating in multiple piconets if it is determined in said step (a) that the receiving node is not a master node,

wherein said step of transmitting the route request to a master node of the receiving node includes transmitting the route request if it is determined in said step (b) that the receiving node is not participating in multiple piconets.

10. The method of claim 9, further comprising the steps:

(c) determining whether the destination node is in the piconet of the master node of the receiving node after said step (b),

wherein said step of generating a route reply and sending the route reply to the source node includes generating and sending the route reply if it is determined in said step (c) that the destination node is in the piconet of the master node of the receiving node, and said step of transmitting the route request includes transmitting the route request if it is determined in said step (c) that the destination node is not in the piconet of the master node of the receiving node.

11. The method of claim 10, wherein the step of transmitting the route request comprises transmitting the route request to master nodes in piconets other than the piconet from which the route request was received if it is determined in said step (b) that the receiving node is participating in multiple piconets.

12. The method of claim 11, further comprising the steps of:

(i) determining, before performing said step (a), whether the route request has been previously received at the receiving node; and

(ii) ignoring the route request if it is determined in said step (i) that the route request has been previously received at the receiving node.

13. The method of claim 1, further comprising the steps of:

(a) determining, before said step of transmitting, whether the receiving node is a master node; and

(b) determining whether the receiving node is participating in multiple piconets if it is determined in said step (a) that the receiving node is not a master node,

wherein said step of transmitting the route request includes transmitting the route request to master nodes in piconets other than the piconet from which the route request was received if it is determined in said step (b) that the receiving node is participating in multiple piconets.

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14. (Amended) A device-readable memory for a communication device, the memory storing device-readable instructions for transceiving a route request in a communication network and for generating a route reply identifying the route, the route request being one of received in and generated by the communication device for a route between a source node and a destination node in the communication network, the communication network including a plurality of nodes including the communication device and at least one master node and at least one pioneer, said memory comprising device-readable instructions for transceiving the route request from the communication device in the communication network to the at least one master node of the at least one pioneer via a master-to-pioneer and for generating a route reply and sending the route reply to the source node.

the route reply identifying the route in the communication network between the source node and the destination node.

15. The memory of claim 14, further comprising device-readable instructions for determining whether the route request has been previously received at the communication device before transceiving the route request and for ignoring the route request if it is determined that the route request has been previously received at the communication device.

16. The memory of claim 14, further comprising device-readable instructions for determining whether the communication device is a master node before transceiving the route request and for determining whether the destination node is in the present of the communication device if it is determined that the communication node is a master node, wherein said device-readable instructions for generating a route reply and sending the route reply to the source node include instructions for generating and sending the route reply if it is determined that the destination node is in the present of the communication device, and said device-readable instructions for transceiving the route request include instructions for transceiving the route request if it is determined that the destination node is not in the present of the communication device.

17. The memory of claim 16, wherein said device-readable instructions for generating a route reply further include device-readable instructions for adding the communication device to a route list of a packet containing the route request, before sending the route reply if it is determined that the destination node is in the packet of the communication device.

18. The memory of claim 14, further comprising device-readable instructions for determining, before transmitting the route request, whether the communication node is a master device and for determining whether the communication device is participating in multiple processes if it is determined that the communication device is not a master node, wherein said device-readable instructions for transmitting the route request include instructions for transmitting the route request to a master node of the communication device if it is determined that the communication device is not participating in multiple processes.

19. The memory of claim 18, further comprising device-readable instructions for determining whether the destination node is in the packet of the master node of the communication device, wherein said device-readable instructions for receiving a route reply and sending the route reply to the source node include instructions for generating and sending the route reply if it is determined that the destination node is in the packet of the master node of the communication device, and said device-readable instructions for transmitting the route request include instructions for transmitting the route request if it is determined that the destination node is not in the packet of the master node of the communication device.

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20. The memory of claim 19, wherein said device-executable instructions for transmitting the route request include instructions for transmitting the route request to master nodes in picocells other than the picocell from which the route request was received if it is determined that the communication device is participating in multiple picocells.

21. The memory of claim 20, further comprising device-executable instructions for determining whether the route request has been previously received at the communication device before determining whether the communication device is a master node, and for ignoring the route request if it is determined that the route request has been previously received at the communication device.

22. The memory of claim 11, further comprising device-executable instructions for determining, before transmitting the route request, whether the communication device is a master node and for determining whether the communication device is participating in multiple picocells if it is determined that the communication device is not a master node, wherein said device-executable instructions for transmitting the route request include instructions for transmitting the route request to master nodes in picocells other than the picocell from which the route request was received if it is determined that the communication device is participating in multiple picocells.

23. (Amended) A wireless communication device for transmitting a route request for a route between a source node and a destination node in a communication network and for generating a route reply identifying the route, the route request being one of received in and generated by the device, wherein the communication network includes a plurality of nodes including the device and at least one master node in at least one picocell, said device comprising a transceiver and a memory storing device-executable instructions for transmitting the route request to the at least one master node of the at least one picocell via a wireless transmission and for generating a route reply and sending the route reply to the source node, the route reply identifying the route in the communication network between the source node and the destination node.

24. The device of claim 23, wherein said transceiver comprises a Bluetooth module.

25. The device of claim 23, further comprising a processor and, including a network layer and a link layer, said device-executable instructions comprising a part of said network layer.

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26. (Amended) The device of claim 25, wherein said communication network comprises an *ad-hoc* network and said network layer comprises a network block comprising device-executable instructions for *ad-hoc* networking, said device-executable instructions for transmitting the route request comprising a part of said device-executable instructions for *ad-hoc* networking.

27. The device of claim 23, further comprising a protocol stack including a network layer and a link layer, said device-executable instructions comprising a part of said link layer.

28. The device of claim 27, wherein said link layer comprises a Bluetooth driver with a personal area network profile, said device-executable instructions comprising a part of said personal area network profile.

29. The device of claim 27, wherein said memory further comprises device-executable instructions for determining whether the route request has been previously received at the communication device before processing the route request and for ignoring the route request if it is determined that the route request has been previously received at the communication device.

30. The device of claim 25, wherein said memory further comprises device-executable instructions for determining whether the communication device is a master node before transmitting the route request and for determining whether the destination node is in the vicinity of the communication device if it is determined that the communication device is a master node, wherein the device-executable instructions for generating a route reply and sending the route reply to the source node include instructions for generating and sending the route reply if it is determined that the destination node is in the vicinity of the communication device, and said device-executable instructions for transmitting the route request include instructions for transmitting the route request if it is determined that the destination node is not in the vicinity of the communication device.

31. The device of claim 30, wherein said device-readable instructions for generating a route reply further include device-readable instructions for adding the communication device to a route list of a packet containing the route request before sending the route reply if it is determined that the destination node is in the packet of the communication device.

32. The device of claim 23, wherein said memory further comprises device-readable instructions for determining, before transmitting the route request, whether the communication device is a master node and for determining whether the communication device is participating in multiple packets if it is established that the communication device is not a master node, wherein said device-readable instructions for transmitting a route request include instructions for transmitting the route request to a master node of the communication device if it is determined that the communication device is not participating in multiple packets.

33. The device of claim 32, wherein said memory further comprises device-readable instructions for determining whether the destination node is in the packet of the master node of the communication device, wherein said device-readable instructions for generating a route reply and sending the route reply to the source node include instructions for generating and sending the route reply if it is determined that the destination node is in the packet of the master node of the communication device, and said device-readable instructions for transmitting the route request include instructions for transmitting the route request if it is

determined how the destination node is not in the presence of the master node of the communication device.

34. The device of claim 33, wherein said device-readable instructions for transmitting the route request include instructions for transmitting the route request to master nodes in presence other than the presence from which the route request was received if it is determined that the communication device is participating in multiple presences.

35. The device of claim 34, wherein said memory further comprises device-readable instructions for determining whether the route request has been previously received at the communication device before transmitting whether the communication device is a master node, and for ignoring the route request if it is determined that the route request has been previously received at the communication device.

36. The device of claim 27, wherein said memory further comprises device-readable instructions for determining, before transmitting the route request, whether the communication device is a master node and for determining whether the communication device is participating in multiple presences if it is determined that the communication device is not a master node, said device-readable instructions for transmitting a route request including instructions for transmitting the route request to master nodes in presence other than the presence from which the route request was received if it is determined that the communication device is participating in multiple presences.

37. The device of claim 23, wherein said device comprises a mobile phone.

38. The device of claim 23, wherein said transmitter is operable for communication via a Bluetooth protocol.

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